

ABSTRACT

A process of producing relatively large, dense, free-standing silicon carbide articles by chemical vapor deposition is enabled by the provision of specially designed isolation devices. These devices segregate silicon carbide deposits on the intended portions of substrates, thereby alleviating the need to fracture heavy silicon carbide deposits in order to remove, or otherwise move, the substrate, with the heavy deposit thereon, from the deposition furnace. The isolation devices enable the use of more efficient vertically extended vacuum furnaces. The isolation devices also enable the commercial production of relatively dense, large, thin-walled, silicon carbide shells.